

## Pawnee County

### Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

10/8/14

12 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Pawnee County economy.<sup>1</sup>

These 12 sectors have a total direct output of approximately \$308 million and support 693.2 jobs in Pawnee County. Running the model for all 12 sectors simultaneously produces the following results:

Agriculture Contribution in Pawnee Co						
Impact Type <sup>2</sup>	Employment	% Employment	Total Value Added <sup>3</sup>	% of Gross Regional Product <sup>4</sup>	Output <sup>5</sup>	% of Gross Regional Product
Direct Effect	693.2	14%	58,947,336.9	20%	308,487,874.7	104%
Indirect Effect	139.8	3%	14,248,479.0	5%	24,427,712.4	8%
Induced Effect	186.1	4%	11,998,928.9	4%	19,398,424.0	7%
Total Effect	1,019.1	20%	85,194,744.8	29%	352,314,011.1	119%

As shown in the above table, agriculture, food, and food processing supports 1,019.1 jobs, or 20% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$352 million, roughly 119% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 12 agriculture, food, and food processing sectors is approximately \$85 million, or 29% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 29% of the total economy.

<sup>1</sup> Article on building a contribution analysis in IMPLAN that avoids double counting:

[http://www.implan.com/index.php?option=com\\_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70](http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70)

<sup>2</sup> Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

<sup>3</sup> Value added = labor income + indirect business taxes + other property type income.

<sup>4</sup> GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

<sup>5</sup> Output = intermediate inputs + value added.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

In the top ten by employment, Grain farming is the top employer in the agriculture industry with 311.4 employees. This table also shows the amount of jobs that are created by the agriculture industry in Pawnee County.

Description	Total Employment	Total Output
Grain farming	311.4	82,639,452.9
Cattle ranching and farming	236.7	169,218,959.3
Support activities for agriculture and forestry	88.2	99,585.0
Monetary authorities and depository credit intermediation activities	32.2	10,569,694.7
Wholesale trade businesses	31.9	5,858,361.3
Private household operations	24.4	59,834.1
Food services and drinking places	23.4	1,225,887.0
Other animal food manufacturing	19.6	28,971,469.0
Transport by truck	17.2	2,126,360.4
Civic, social, professional, and similar organizations	16.6	515,847.6

The Cattle ranching and farming industry directly contributes approximately \$169 million to Pawnee County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Description	Total Employment	Total Output
Cattle ranching and farming	236.7	169,218,959.3
Grain farming	311.4	82,639,452.9
Other animal food manufacturing	19.6	28,971,469.0
All other crop farming	7.1	11,788,693.6
Monetary authorities and depository credit intermediation activities	32.2	10,569,694.7
Oilseed farming	10.0	7,329,438.2
Wholesale trade businesses	31.9	5,858,361.3
Imputed rental activity for owner-occupied dwellings	0.0	5,620,441.7
Other industrial machinery manufacturing	9.3	3,853,361.8
Animal (except poultry) slaughtering, rendering, and processing	9.0	2,882,590.5

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Pawnee County's economy.

[illegible]

All 105 counties in Kansas have Implan models and agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.